



Electronic Specialty Gases (ESG) Safety - Oxidizer Gases

Overview:

Electronic Specialty Gases (ESGs) are used to manufacture semiconductor, solar cells etc. Oxidizing gases are gases which may cause or contribute to the combustion of other material more than air does and can react rapidly and violently with combustible materials or flammable vapors. Oxidizer gases include halogens (chlorine), nitrous oxide, and oxygen.

Understand the Hazards:

Health Hazards (GHS)



Oxidizer Fire

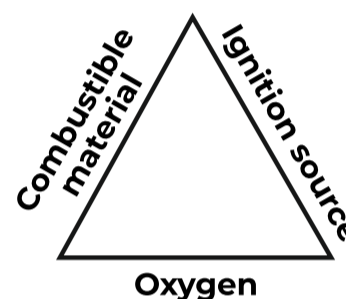


Lead to severe fire

Compressed Gas



Lead to explosion



Source: AIGA

Many of these Oxidizer 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.

Safe Storage and Handle:



Hazard Classification



Ventilation



Gas Leak Detection



Scrubber Systems



No Flammables



Restrain Cylinders



Security



Cylinder Trolley



Valve Protection



Labelling

Operational Safety and PPE for Personnel:



Risk Assessment



Procedures



Trainings



Safety Glasses



Safety Shoes



Safety Gloves



Self Contained Breathing Apparatus



Chemical Protective Clothing



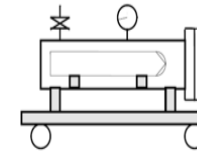
Portable Gas Leak Detector



Emergency Response Plan



Emergency Eye Wash & Shower



Emergency Response Containment Vessel

Refer to AIGA 018 Safe Handling of Electronic Specialty Gases

Asia Industrial Gases Association

No-2 Venture Drive, # 22-28 Vision Exchange, Singapore 608526

T: +65 67055642 F: +65 68633307

www.asiaiga.org [in/asiaigaorg](https://www.linkedin.com/company/asiaigaorg)

AIGA Safety Poster, SP 23/24