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AIGA Publication

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The Asia Industrial Gases Association (AIGA) was established on year 2002 by the leading industrial gases producers operating in Asia (excluding Middle East, Japan, Australia, New Zealand and the South Pacific nations).

AIGA is a technical and safety oriented organization with the purpose of promoting safety, health, environmental awareness and security in the production, distribution and use of industrial gases.

AIGA is registered as a non-profit society based in Singapore. It aims to foster the exchange of technical information among its members in the safe handling and use of industrial, medical and carbon dioxide gases, and to have close liaison with national authorities, in order to work towards the highest level of safety and environmental care across Asian countries. AIGA actively participates in the harmonization of standards across the gas industry on a global level with other Regional Gases Associations in United States, Europe and Japan (CGA, EIGA and JIMGA).

AIGA OWN AND HARMONIZED DOCUMENTS

128/24	Guidelines for Pressure Testing of Field Installed Piping and Equipment(Harmonized Publication)
127/24	Guidelines on Remedial Actions for HYCO Plant Components subject to High Temperature H2 Attack(Harmonized Publication)
126/24	Standard Procedures for Hydrogen Supply Systems(Harmonized Publication)
125/23	Guidelines for small scale Hydrogen production (Harmonized Publication)
124/23	Reciprocating Cryogenic pumps and Pump Installations for Hydrogen and Liquefied Natural Gas (Harmonized Publication)
123/22	A Ref Guide for Medical and Industrial Gas Cylinder Identification by Color Code
122/22	Prevention of Plant Instrument and Utility Gas System Cross Contamination (Harmonized Publication)
121/22	Mechanical Integrity of Generator Systems in Acetylene Plants (Harmonized Publication)
120/22	Quality of Delivered Product from Medicinal Gas Cylinders
119/22	Overview on Fleet Safety Technology and Vehicle Specification
118/21	Industrial Gas Pipeline Integrity Management(Harmonized Publication)
117/21	Plant Integrity Management (Harmonized Publication)
116/21	Static Vacuum Insulated Cryogenic Vessels Operation and Inspection
115/21	ICH Q3D Risk Assessment Report Elemental Impurities in Medicinal Gases (Harmonized Publication)
114/21	Safe Catalyst Handling in Hyco Plants (Harmonized Publication)
113/20	Safe Design And Operation of On Site Generation of Oxygen 93% For Medicinal Use

112/20	Solvents For Acetylene Filling
111/20	Design Considerations And Guidance For The Safe Use Of Medical Gas VIPR
110/20	HYCO Plant Gas Leak Detection and Response Practices (Harmonized Publication)

109/20	Pre-fill inspection of customer owned Cylinders
108/20	Guideline for safe handling of liquid containers on wheel bases (Harmonized Publication)
107/19	Alternatives to hydraulic testing of gas cylinders
106/19	Vacuum-jacketed piping in liquid oxygen service (Harmonized Publication)
105/19	Guidelines for cleaning externally contaminated medical gas containers (Harmonized Publication)
104/19	Safety principles for pressure regulators for medical oxygen cylinders
103/19	Guidelines for safe and hygienic handling of dry ice
102/19	Safety guidelines: prevention of wheel detachment
101/19	A reference guide on cryogenic tanker product conversion
100/23	Hydrogen pressure swing absorber (PSA) mechanical integrity requirements (Harmonized Publication)
099/20	Process safety management framework guidance document (Harmonized Publication)
098/17	A reference guide for industrial gas cylinder valve outlet connections
097/17	Reference guide on medicinal gas cylinder valves
096/23	Code of practice hydrogen selenide H ₂ Se (Harmonized Publication)
095/16	Mechanical integrity of syngas outlet systems (Harmonized Publication)
094/17	Design, manufacture, installation, operation, and maintenance of valves used in liquid oxygen and cold gaseous oxygen systems (Harmonized Publication)
093/16	Guideline for the location of occupied buildings in industrial gas plants (Harmonized Publication)
092/20	Prevention of tow-away incidents (Harmonized Publication)
091/21	Guidance for qualifying customers purchasing compressed gases
090/14	A reference guide for requalification of gas cylinders
089/23	Reciprocating cryogenic pumps and pump installations (Harmonized Publication)
088/14	Labelling of medical gas containers
087/20	Standard for hydrogen piping systems at user locations (Harmonized Publication)
086/21	Safe startup and shutdown practices for steam reformers (Harmonized Publication)
085/21	Liquid oxygen, nitrogen and argon cryogenic tanker loading systems (Harmonized Publication)
084/13	Methodology to establish a “product carbon footprint”
083/21	Disposal of gases(Harmonized Publication)
082/20	Combustion safety for steam reformer operation (Harmonized Publication)

081/20	Safe practices for storage and handling of nitrous oxide (Harmonized Publication)
080/16	Safe practices for the production of nitrous oxide from ammonium nitrate (Harmonized Publication)
079/23	Safe design and operation of cryogenic enclosures (Harmonized Publication)
078/12	International harmonization council work process
077/20	Guidelines for handling externally contaminated medical cylinders in a pandemic situation
076/21	Safe use of aluminum-structured packing for oxygen distillation (Harmonized Publication)
075/20	Calculation method for the analysis and prevention of overpressure during refilling of cryogenic tanks with rupture disk(s) (Harmonized Publication)
074/20	Safe handling of liquid carbon dioxide containers that have lost pressure (Harmonized Publication)
073/20	Tap water corrosion of composites with AA 6061 liners (Harmonized Publication)
072/20	Guidelines for transport by sea of multiple element gas containers(MEGCS) and portable tanks for transport of gases (Harmonized Publication)
071/23	Centrifugal compressors for oxygen service (Harmonized Publication)
070/20	Leak detection fluids cylinder packages (Harmonized Publication)
069/10	Recommendations for safe filling of CO2 cylinders and bundles
068/20	Carbon dioxide (Harmonized Publication)
067/17	Safe location of oxygen and inert gas vents
066/18	Selection of personal protective equipment (Harmonized Publication)
065/21	Avoidance of failure of co and of CO/CO2 mixtures cylinders (Harmonized Publication)
063/16	Use of residual pressure valves (Harmonized Publication)
062/23	Methods to avoid and detect internal gas cylinder corrosion (Harmonized Publication)
061/13	Safe use of gas cylinders in marine service
060/23	Safe installation and operation of PSA and membrane oxygen and nitrogen generators (Harmonized Publication)
059/23	Use of non-metallic materials in high pressure oxygen breathing gas applications (Harmonized Publication)
058/23	Safe preparation of compressed oxidant-fuel gas mixtures in cylinders (Harmonized Publication)
057/18	Safe use of brazed aluminum heat exchangers for producing pressurized oxygen (Harmonized Publication)
056/23	Safe practices guide for cryogenic air separation plants (Harmonized Publication)
055/20	Installation guide for stationary electric-motor driven centrifugal liquid oxygen pumps (Harmonized Publication)
054/15	Prevention of excessive pressure during filling of cryogenic vessels (Harmonized Publication)

053/19	Code of practice compressed fluorine and mixtures with inert gases (Harmonized Publication)
052/23	Storage and handling of silane and silane mixtures (Harmonized Publication)
051/20	Code of practice phosphine (Harmonized Publication)
050/20	Code of practice arsine (Harmonized Publication)
049/17	Guideline to medical oxygen supply system for healthcare facilities
048/18	Reciprocating compressors for oxygen service (Harmonized Publication)
047/22	The safe preparation of gas mixtures
046/08	Periodic inspection of static cryogenic vessels
045/07	Gaseous hydrogen stations
044/20	Flexible connections in high pressure gas systems
043/07	Transport security guidelines
042/16	Work injury & product vehicle accident statistics
041/06	Defensive driving
040/06	Good practices guide for loading and unloading of cryogenic liquid tankers
039/16	Road transport/product delivery emergency prepare
038/21	Vertical cylinder handling and transportation
037/16	Permissible charge/filling conditions for acetylene cylinders, bundles, & battery vehicles
036/21	Guidelines for the management of waste acetylene cylinders
035/20	Safe operation of reboilers/condensers in air separation units (Harmonized Publication)
034/06	Carbon monoxide and syngas pipeline systems (Harmonized Publication)
033/14	Hydrogen pipeline systems (Harmonized Publication)
032/22	Perlite management (Harmonized Publication)
031/23	Bulk liquid oxygen, nitrogen and argon storage systems at production sites (Harmonized Publication)
030/13	Storage of cryogenic air gases at users' premises
029/18	Code of practice nitrogen trifluoride (Harmonized Publication)
028/22	Unmanned air gas plant: design & operation (Harmonized Publication)
027/24	Cryogenic vaporization systems – prevention of brittle fracture of equipment and piping (Harmonized Publication)
026/21	Principles for the safe handling and distribution of highly toxic gases and mixtures
025/23	Pressure containers with blocked or inoperable valves
024/10	Connections for transportable and static bulk storage tanks
023/17	Good manufacturing practice guide for medicinal gases
022/13	Code of practice acetylene
021/20	Oxygen pipeline and piping systems (Harmonized Publication)
019/17	Connections for portable liquid cylinders
018/15	Safe handling of electronic specialty gases

017/05	Labelling of gas containers (including associated equipment)
016/05	Safety features of portable cryogenic liquid containers for industrial and medical gases
015/15	Safe management of contractors
014/20	Safety audit guidelines
013/05	Incident/accident investigation and analysis
012/19	Cleaning of equipment for oxygen service
011/04	Work permit systems
010/19	Management of change
009/21	Safety training of employees
008/18	Hazards of oxygen deficient atmospheres (Harmonized Publication)
007/04	Job motivation and safe operations in cylinder filling stations
006/15	Good environmental management practices for the industrial gas industry
005/18	Fire hazards of oxygen and oxygen-enriched atmospheres (Harmonized Publication)
004/23	Handling gas container emergencies
003/18	Site security guidelines
Safety Bulletins	
048/24	PSM Element No 13,Operational Readiness and Process Start Up
047/24	Standard for Mitigating Oxygen Hazard in the Healthcare Environment(harmonized publication)
046/24	Operational Discipline in the Upkeep of Med Gases Installations and Cylinder Back Up System at Healthcare Facilities
045/24	Task Factor-Design and Effectiveness of Procedures
044/24	Human factors – Task Maintenance Error
043/24	Process Safety Element-Work Control, Permit to Work and Task Risk Assessment
042/24	Human factors – Organization Communications on Safety
041/24	Safe Transport , Storage and Use of Acetylene Cylinders
040/23	Cryogenic Flat Bottom tank (FBT) Safety
039/23	Organization site emergency response
038/23	Organization Human Reliability
037/23	Human Factor- Individual “Training and Competence”
036/23	Safety Audit/Assessment Tool for liquid Tankers and Distribution of liquid Products
035/22	PSM Element – management of safety Critical Devices
034/22	Human factor: Managing organizational Change
033/22	Human Factor - Organisation Safety Culture
032/22	Human Factors - An Overview
031/22	AIGA Key Safety Performance for 2021 and Trends Since 2017
030/22	Management of Change – Key element of Risk Management

029/21	Training: Induction and Refresher Training of Drivers, Management and Other Transport Function Personnel
028/21	Vehicle Data Management
027/21	Vehicle Specification and Maintenance
026/21	Acetylene Plant Safe Operating Pressures and Temperatures (Harmonized Publication)
025/21	Workplace Safety
024/21	Abuse of Gases
023/20	Service Life of Valves With Integrated Pressure Regulators (VIPRs) Fitted to Medical Gas Cylinders
022/20	Safety Inspection Check List of Air Separation Units and Cryo Liquid Storages at plant site
021/20	Covid-19 - Measures to disinfect externally contaminated gas packages
020/19	A Guide on Minimum Safety Requirements for Customers' Self Pick Up Vehicles
019/19	Guidline on Monitoring and Management High Risk Drivers
018/19	Armed and Unarmed Guards at Facilities
017/19	Travel security
016/19	Receiving cylinders after natural disaster exposure
015/19	Handling cylinders after natural disaster exposure
014/19	Liquid Nitrogen in Molecular Cooking
013/18	Carbon dioxide physiological hazards "Not just an Asphyxiant!"
012/18	Transportation safety - challenges & improvement strategy
011/18	Human behavior within transport operations
010/17	Prevention of accidents due to overheated or burning tyres
008/17	In-cab camera and how does it help to improve road safety
007/11	Safety at customer sites
006/10	Safe handling of compressed gases in the laboratory and plant
005/10	Recent cases of asphyxiation in confined spaces in Asia
004/20	Potential hazards of quick release cylinder valves used with firefighting gases
003/06	Safe operation of fork lift trucks
002/20	Influenza and Coronavirus Pandemic Preparedness
001/24	Safe use of Acetylene

Safety Posters

023/24	Electronic Specialty Gases Safety-Oxidizer Gases
022/24	No Distraction While Driving
021/24	Product Vehicle Roll Over Prevention
020/24	Electronic Specialty Gases(ESG) Safety-Toxic gases
019/23	Deuterium Safety
018/23	Liquefied Hydrogen Safety

017/23	Safe Handling of Portable liquid Cylinder (PLC)
016/22	Safety Beacon – Cold Box Internal leaks
015/22	Safety Beacon – External Cryogenic Liquid/Gas Spilled onto Cold Box
014/22	Product Vehicle Rollover Prevention
013/22	Common Slips, Trips and Falls Hazards
012/22	Covid-19 Medical Oxygen Needs
011/21	Safe Transport of Cylinder Gases and Portable Liquid Containers
010/21	Safe Transport of Dry Ice
009/20	Safe practice for pressure check on Oxygen/Oxidizer Cylinder
008/20	Covid-19: external cleaning & handling of medical gas cylinders
007/19	Process safety
006/19	Safe handling of cylinders
005/17	Asphyxiation
004/17	Driver distraction due to mobile phone use, series 2.0
003/17	Driver distraction due to mobile phone use
002/15	Driver fatigue, series 2.0
001/15	Driver fatigue

Position Papers

08/24	Inspection Requirement of ASU Cold Box Internal Components (Harmonized Publication)
07/21	AIGA Position on Conversion of Cryogenic Transport Tankers/ ISO Containers from Hydrocarbon / Flammable service to Liquid Oxygen service
05/18	Long-term durability of steel gas cylinder
04/11	Trans filling of medical gas cylinders
03/10	Tapered and parallel (straight) threads in aluminum alloy cylinders (Harmonized Publication)
02/18	Memorandum of understanding gas cylinder ownership and responsibility in Asian countries
01/06	Good manufacturing practice guide for medicinal gases

Training Packages

038/24	Recent (H1 of 2024) Accidents/Incidents in the Gases Industry in Asia (members only)
037/24	Safe Design and Handling of Filling Connectors
036/24	Learning from Recent (H2 of 2023) Accidents/Incidents in the Gases Industry in Asia (members only)
035/23	Learning from Recent(H1 of 2023)Safety Incidents in the Gases Industry (members only)
034/23	Contract Carrier Management
033/23	Product Vehicle Emergency Recovery
032/23	Recent (Year 2022) accidents-incidents in the Gases industry in Asia(members only)

031/21	Recent (H2 of 2021) Accidents/Incidents in the Gases Industry in Asia(members only)
030/21	Recent (H1 of 2021) Accidents/Incidents in the Gases Industry in Asia(members only)
029/21	Recent (3Q & 4Q of 2020) Incidents in the Gases Industry in Asia(members only)
028/20	Recent (H1 of 2020) Accidents/Incidents in the Gases Industry in Asia(members only)
027/20	Recent (H2 of 2019) Accidents/Incidents in the Gases Industry in Asia(members only)
026/20	Filling Liquified Gases in Cylinders - Hazards & Safeguards
025/20	Recent (H1 of 2019) accidents/incidents in the gases industry in Asia(members only)
024/19	Recent (2018) accidents / incidents in the gases industry in Asia(members only)
023/18	Recent (2017) accidents / incidents in the gases industry in Asia(members only)
022/17	Recent (2016) accidents / incidents in the gases industry in Asia(members only)
021/16	Safe filling of open top dewars and flasks from cryogenic
020/16	Safe visits to customer site for occasional visitors from industrial gas companies
019/16	Recent (2015) incidents in the gases industry in Asia(members only)
018/15	Vehicle rollover prevention
016/15	Driver fatigue management
015/15	Pre-fill inspection of gas cylinders
014/15	Recent (2014) incidents in the gases industry (members only)
013/13	Recent incidents in the gases industry in Asia(members only)
012/12	Recent incidents in the gases industry in Asia(members only)
011/20	Safe use and handling of portable liquid cylinders (PLCS)
010/12	Safe driving in bad weather conditions
009/12	Recent incidents in the gases industry in Asia(members only)
008/11	Recent incidents in the gases industry in Asia(members only)
007/20	Near misses specialty gases
006/06	Work permit system
005/05	prevention of over – pressurization
004/05	Slips, trips and falls
003/05	Safe storage, handling & use of compressed gases
002/05	Fire hazards of oxygen and oxygen enriched atmospheres
001/04	Oxygen deficiency

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