

WHAT IS INDUSTRIAL GAS CYLINDER?

- It is a metallic vessel tank or container used to store gases at above atmospheric pressure.
- Each cylinder has been specifically designed and constructed for a particular gas considering safety requirements and applicable Indian standard code.
- In this topic, the safety requirement related to handling gas cylinders (i.e. transportation, loading, unloading, placing/ storing, and treatment)

MAIN CAUSES OF ACCIDENT ASSOCIATED WITH GAS CYLINDER.

- Inadequate training and supervision
- Poor installation
- Poor examination and maintenance
- Faulty equipment and/or design (e.g. badly fitted valves and regulators)
- Poor handling & storage
- inadequately ventilated working conditions
- Incorrect filling procedures
- Hidden damage

SAFETY REQUIREMENTS DURING TRANSPORTATION, LOADING, AND UNLOADING OF GAS CYLINDERS

- A valve cap should be placed to secure the valve during transit.
- A cylinder fitted with a regulator should not be loaded on the vehicle.
- Cylinder should be moved by titling and rolled on the bottom edge.
- Cylinder should not be rolled horizontally for shifting.
- The cylinder should be kept upright and secured by a chain or a suitable device when transported.
- Cylinder should not be dropped or struck.
- A valve cap should not be used for lifting the cylinder in a vertical position.
- A trolley, cradle, or other suitable devices should be used for lifting cylinders.
- Cylinder should not be tied in the choker method to lift.
- Cylinder should not be hoisted utilizing magnets or rope.
- Oxygen cylinder and fuel cylinder should not be transported together in the same vehicle.
- A trolley or cradle should be used for shifting from one location to another.
- Stacking of cylinders in horizontal conditions on transporting vehicles is dangerous. Ask your gas supplier to stop unsafe practices.



Ensure: Valve Cap



Ensure: Tilt & Roll from Bottom



Ensure: Transported Vertically



Avoid: Without Valve Cap



Avoid: Horizontally & Rolled Out



Avoid: Chokered Tied & lifted



Ensure: Isolation and secured



Ensure: Label of gas content



Ensure: Signboard



Avoid: Unsecured



Avoid: Missing Label



Ensure: Tag for Identification

STORAGE LICENSE REQUIREMENT

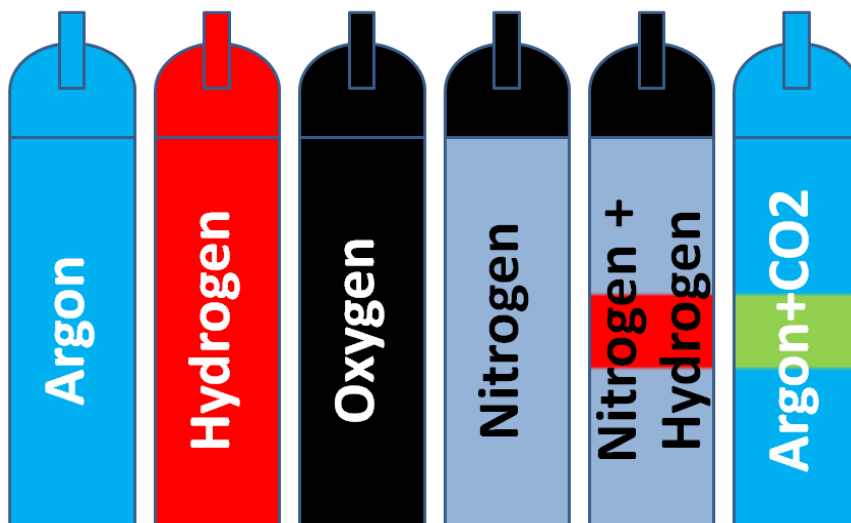
Storage License is required in the following conditions.

- LPG Cylinder > 100 kg
- Flammable but not toxic > 25 cylinders or > 200 kgs
- Non-flammable and non-toxic Cylinders > 200 kgs
- Toxic Gas > 5 cylinders
- DA Gas > 50 cylinders

LPG cylinders connected with manifold systems are not considered as storage.

SAFETY REQUIREMENTS RELATED TO THE TREATMENT OF GAS CYLINDERS.

- Cylinder should not be part of the electric circuit during welding operation.
- The cylinder should not be filled with any other gas except what it has been designed for.
- Cylinder should not be filled for mixing of gases even for temporary.
- The colour of the cylinder should not be changed.
- Cylinder should not be used as rollers or supports.
- Damaged defective or leaking cylinders are to be identified and isolated immediately.
- No oil or lubricant should be used on valves or other fittings.
- The cylinder should not be repaired in this case. It must be discarded for further use.



Kindly refer colour code identification

Industrial Gas Cylinder (IS 4379:1981) and Medical Gas Cylinder (ISO 3933:1966)

INDIAN STANDARD

IS 3933:1966	Colour Identification of Gas Cylinders and Related Equipment Intended for Medical Use https://law.resource.org/pub/in/bis/S08/is.3933.1966.pdf - DOWNLOAD
IS 4379:1981	Identification of Contents of Industrial Gas Cylinders https://law.resource.org/pub/in/bis/S08/is.4379.1981.pdf - DOWNLOAD
IS 5903:1970	Recommendations for Safety Devices for Gas Cylinders https://law.resource.org/pub/in/bis/S08/is.5903.1970.pdf - DOWNLOAD
IS 8198:2004	Steel Cylinders for Compressed Gases (Atmospheric Gases, Hydrogen, High-Pressure Liquefiable Gases, and Dissolved Acetylene Gases) - Code of Practice https://law.resource.org/pub/in/bis/S08/is.8198.2004.pdf - DOWNLOAD
Gas Cylinder Rules 2016	Gas Cylinder Rules 2016 https://qhsealert.com/law/L108GasCylinder/L108A.pdf - DOWNLOAD

RECOMMENDED PPES



Safety Shoes



Safety Gloves



Safety Glasses

SAFETY VIDEO

<https://www.youtube.com/watch?v=uzn6MDVqSFU>

This animated video shows how the cylinder will react if the valve is damaged.

WHY WE



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